Type III Categorical Exclusion Action Classification Form

STIP Project No.	I-5708
WBS Element	50124.1.FS1
Federal Project No.	NHP-0440(020)

A. Project Description:

The North Carolina Department of Transportation (NCDOT) proposes improvements to the interchange at I-440/US 1 and SR 2000 (Wake Forest Road) in Raleigh (Wake County). The project location and study area is shown on Figure 1, and the project area photos are shown on Figure 2.

The project is included in NCDOT's 2018-2027 *State Transportation Improvement Program* (STIP) as Project I-5708. Right-of-way acquisition is scheduled to begin in Federal Fiscal Year (FFY) 2019 and construction in FFY 2020.

B. Description of Need and Purpose:

The need for the proposed action is due to increased traffic congestion at the interchange of I-440 and Wake Forest Road. The purpose of the project is to relieve congestion by improving the levels of service (LOS) at the interchange ramps at Wake Forest Road to LOS D or better.

NCDOT's 2016 average annual daily traffic (AADT) maps show that Wake Forest Road carries approximately 68,000 vehicles per day (vpd) north of the I-440 interchange and 40,000 vpd south of the interchange. Traffic volumes are projected to increase to nearly 75,000 vpd north of the I-440 interchange and 43,000 vpd south of the interchange in the year 2040, as the Raleigh area continues to experience increased development.

A traffic forecast was completed for this project in 2015, followed by the I-5708 *Traffic Operations Report* (July 2016). An amendment to the original traffic forecast was prepared in May 2017 to account for the additional anticipated demand resulting from the North Hills East rezoning and other proposed developments in the project study area. The traffic operations analysis was updated in February 2018 to account for these changes.

In general, the proposed DDI would improve network operations but not alleviate all operational issues. The network-wide average delay per vehicle and ramp terminal intersection LOS, included in Table 1, show that the Build scenario operates better than the No Build scenario in both peak hours. However, the adjacent intersections north of the interchange affect traffic at the interchange, causing spillback within the interchange. Signal timing priority can be established during final design to prevent off-ramp queue spillback from impacting the I-440 mainline.

Table 1. 2040 No Build and Build Conditions: Levels of Service and Average Delay

Location	2040 No Build		2040 Build	
	AM Peak	PM Peak	AM Peak	PM Peak
Level of Service (Signalized Intersections)				
I-440 WB Terminal at Wake Forest Rd (SR 2000)	D	D	B	B
I-440 EB Terminal at Wake Forest Rd (SR 2000)	D	C	B	B
Average Delay (sec/mi)				
Modeled Network-Wide	242.7	243.4	178.3	227.8

Note: All results reported as the 95th percentile.

C. Categorical Exclusion Action Classification: Type III

D. Proposed Improvements:

NCDOT proposes to convert the existing compressed diamond interchange at I-440/US 1 and Wake Forest Road to a diverging diamond interchange (DDI) in Raleigh (Wake County). Converting this interchange includes adding concrete medians along Wake Forest Road, concrete islands at the ramp junctures, and retaining walls under the I-440/US 1 bridge. Two-phase traffic signals will be installed at the crossover points. Pavement for an additional left-turn lane will be installed but paint-striped at St. Albans Drive only until such time as a second receiving lane on St. Albans Drive is constructed (by others). Sidewalks will remain on the outside of the travel lanes for pedestrian movements. Cyclists will continue using the travel lanes.

A DDI, also known as a double crossover diamond, is an alternative to the conventional diamond interchange or other alternative interchange forms. The primary difference between a DDI and a conventional diamond interchange is that the two directions of traffic cross each other to flow on the opposite side of the road. By shifting cross street traffic to the left side of the street between the signalized crossover intersections, vehicles on the crossroad making a left turn onto or off of ramps do not conflict with vehicles approaching from other directions. The diagram below illustrates how a DDI operates.

E. Special Project Information:

Technical Studies

The following technical studies were completed for this project and can be provided upon request.

- *I-5708 Hazardous Materials Report*, January 2015 – identifies properties in the project study area that are or may be contaminated, thus increasing the project cost and future liability if acquired by the Department.

- *I-5708 Traffic Safety Review*, April 2015 – summarizes the crash data analysis for I-440 and Wake Forest Road in the project area.

- *I-5708 Traffic Forecast,* April 2015 – provides average annual daily traffic volumes for 2015 and 2040 No Build and Build scenarios.

- *I-5708 Natural Resources Technical Report*, November 2015 – describes the natural environmental features in the project study area, potential permits, and other applicable requirements by state and federal regulatory agencies.

- *I-5708 Community Characteristics Report / Impact Assessment Short Form*, November 2015 – describes the community features and resources in the project study area and surrounding areas.

- *I-5708 Traffic Operations Report*, July 2016 – analyzes the No Build and Build scenarios for base and future year traffic to make recommendations about what is needed for acceptable traffic operations.

- *I-5708 Preliminary Hydraulic Technical Report*, December 2016 – identifies existing and/or proposed major drainage structures and what the project impact will be on each structure.

- *I-5708 2040 Build / No Build Traffic Forecast Amendment*, May 2017 – update to the April 2015 *I-5708 Traffic Forecast.*

- *I-5708 Traffic Noise Report*, August 2017 – preliminary analysis of the potential traffic noise impacts due to the proposed project.

- *I-5708 Traffic Operations Memorandum – Update of July 2016 Report*, February 2018 – analyzes the No Build and Build scenarios to account for additional traffic included in the amended traffic forecast (May 2017).

Agency Involvement

A scoping letter requesting comments was sent on January 9, 2015 to state and federal agencies. Agency responses can be found in the Appendix.

Public Input

An informal, open-house style public meeting for the project was conducted on May 17, 2018 at the Hilton North Raleigh/Midtown from 4:00-7:00pm. The meeting was announced via the NCDOT public meetings website, a postcard mailed in May 2018 to residential addresses and businesses in the project study area, press releases, and local media outlets.

A map of the proposed design was displayed. Over 50 people attended the public meeting. Eight comments were received via email and comment sheets submitted the day of the meeting. Comments included two statements in opposition to DDIs, concerns/questions about potential property impacts, questions about signal/lane/pedestrian accommodations to incorporate into final design, and a request to include notifications during construction in Spanish as well as English.

Alternatives Analysis

No Build Alternative – The No Build Alternative would not meet the purpose and need of the proposed project to improve traffic operations in the project area. It would not improve the current interchange, resulting in continued delays and traffic congestion in this area.

Build Alternative – A diverging diamond interchange was studied as the Build Alternative because it meets the purpose and need of the project while minimizing right-of-way impacts. Three through-lanes will be carried through the crossover with dual left-turns in each direction. Due to right-of-way constraints and the need to keep the bridge in place carrying I-440 over Wake Forest Road, pedestrians will be routed to the right side of the travel lanes rather than down the middle of the crossover. Lanes are 15 feet wide inside the crossovers and 10 feet wide north of the interchange. Typical sections are shown on Figure 3, and the proposed design can be found on Figure 4.

Project Cost

Project cost estimates are included in Table 2. Water and sewer line relocations are included in the construction estimate.

Table 2: Cost Estimates

Construction	$8,800,000
Utility Relocation (Power/Telephone)	$650,000
Right-of-Way*	$14,806,000
Total	**$24,256,000**

* Relocation report does not include potential commercial acquisition; right-of-way costs to be reevaluated during final design.

Maintenance of Traffic

A traffic maintenance plan will be completed during final design. NCDOT will coordinate with GoRaleigh, Raleigh Emergency Management Services, Duke Raleigh Hospital, and Wake County Public Schools prior to construction. Project commitments can be found in Section H.

Relocations and Right-of-Way Acquisition

One commercial real estate acquisition is possible with the Build alternative. It will be studied further in final design to determine whether a retaining wall is possible. A copy of the relocation report is included in the Appendix.

F. Project Impact Criteria Checklist:

Type III Actions		Yes	No
1	Does the project involve potential effects on species listed with the US Fish and Wildlife Service (USFWS) or National Marine Fisheries (NMFS)?	☒	☐
2	Does the project result in impacts subject to the conditions of the Bald and Golden Eagle Protection Act (BGPA)?	☐	☒
3	Does the project generate substantial controversy or public opposition, for any reason, following appropriate public involvement?	☐	☒
4	Does the project cause disproportionately high and adverse impacts relative to low-income and/or minority populations?	☐	☒
5	Does the project involve substantial residential or commercial displacements or right of way acquisition?	☐	☒
6	Does the project include a determination under Section 4(f)?	☐	☒
7	Is a project-level analysis for direct, indirect, or cumulative effects required based on the NCDOT community studies screening tool?	☐	☒
8	Is a project level air quality Mobile Source Air Toxics (MSAT) analysis required?	☐	☒
9	Is the project located in anadromous fish spawning waters?	☐	☒
10	Does the project impact waters classified as Outstanding Resource Water (ORW), High Quality Water (HQW), Water Supply Watershed Critical Areas, 303(d) listed impaired water bodies, buffer rules, or Submerged Aquatic Vegetation (SAV)?	☐	☒
11	Does the project impact waters of the United States in any of the designated mountain trout streams?	☐	☒
12	Does the project require a U.S. Army Corps of Engineers (USACE) Individual Section 404 Permit?	☐	☒
13	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility?	☐	☒
14	Does the project include Section 106 of the National Historic Preservation Act (NHPA) effects determination other than a no effect, including archaeological remains? Are there project commitments identified?	☐	☒
15	Does the project involve hazardous materials and/or landfills?	☐	☒
16	Does the project require work encroaching and adversely effecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A?	☐	☒
17	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Area of Environmental Concern (AEC)?	☐	☒
18	Does the project require a U.S. Coast Guard (USCG) permit?	☐	☒
19	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River present within the project area?	☐	☒

Type III Actions (continued)		Yes	No
20	Does the project involve Coastal Barrier Resources Act (CBRA) resources?	☐	☒
21	Does the project impact federal lands (e.g. USFS, USFWS, etc.) or Tribal Lands?	☐	☒
22	Does the project involve any changes in access control?	☒	☐
23	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness?	☐	☒
24	Will maintenance of traffic cause substantial disruption?	☐	☒
25	Is the project inconsistent with the STIP or the Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP) (where applicable)?	☐	☒
26	Does the project require the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, Tennessee Valley Authority (TVA), Tribal Lands, or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property?	☐	☒
27	Does the project involve Federal Emergency Management Agency (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)?	☐	☒
28	Is the project considered a Type I under the NCDOT's Noise Policy?	☒	☐
29	Is there prime or important farmland soil impacted by this project as defined by the Farmland Protection Policy Act (FPPA)?	☐	☒
30	Are there other issues that arose during the project development process that affected the project decision?	☐	☒

G. Additional Documentation as Required from Section F.

Response to Question 1: Federally Protected Species

The US Fish and Wildlife Service has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the United States Army Corps of Engineers (USACE), and NCDOT for the Northern long-eared bat (NLEB) in eastern North Carolina. The PBO covers the entire NCDOT program in Division 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is "May Affect, Likely to Adversely Affect." The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Wake County.

Response to Question 22: Access Control

The proposed improvements include a median along Wake Forest Road, converting several driveways to Right-In-Right-Out access. The secondary driveway (RIRO) for the State Employees Credit Union administrative office building will be removed due to its proximity to the DDI crossover point and I-440 off-ramp; however, SECU maintains their main access along Wake Towne Drive.

Response to Question 28: Traffic Noise

A preliminary traffic noise analysis was conducted for the project and the results reported in the *I-5708 Traffic Noise Report* (August 2017). No noise walls preliminarily met the feasibility and reasonableness criteria specified in the NCDOT Traffic Noise Policy, and no abatement is likely. Therefore, no noise abatement will be included in the project designs. This fulfills the traffic noise requirements of Title 23 CFR Part 772 and the NCDOT Traffic Noise Policy.

H. Project Commitments

Wake County
I-440/SR 2000 (Wake Forest Road) Interchange
Federal Project No. NHP-0440(020)
WBS No. 59124.1.FS1
TIP No. I-5708

All commitments developed during the project development and design phase for the project are listed below.

NCDOT Division 5

- NCDOT Division 5 will coordinate with the following prior to construction:
  - GoRaleigh (919-485-7433)
  - Wake County Emergency Medical Services (919-856-6020)
  - Duke Raleigh Hospital (919-286-8311)
  - Wake County Public Schools (919-805-3030)

I. Categorical Exclusion Approval

STIP Project No.	I-5708
WBS Element	50124.1.FS1
Federal Project No.	NHP-0440(020)

Prepared By:

6/25/18
Date

Meredith H. Van Duyn, PE, Project Manager
RS&H Architects-Engineers-Planners, Inc.

NORTH CAROLINA PROFESSIONAL SEAL 034390 ENGINEER MEREDITH H. VAN DUYN

Prepared For: North Carolina Department of Transportation

Reviewed By:

6/26/2018
Date

DocuSigned by:
Ahmad Al-Sharawneh
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Ahmad Al-Sharawneh, Project Manager
North Carolina Department of Transportation

NCDOT certifies that the proposed action qualifies as a Type III Categorical Exclusion.

6/26/2018
Date

DocuSigned by:
Derrick Weaver
047D90B49865400...

Derrick Weaver, PE, Unit Head, Environmental Policy Unit
North Carolina Department of Transportation

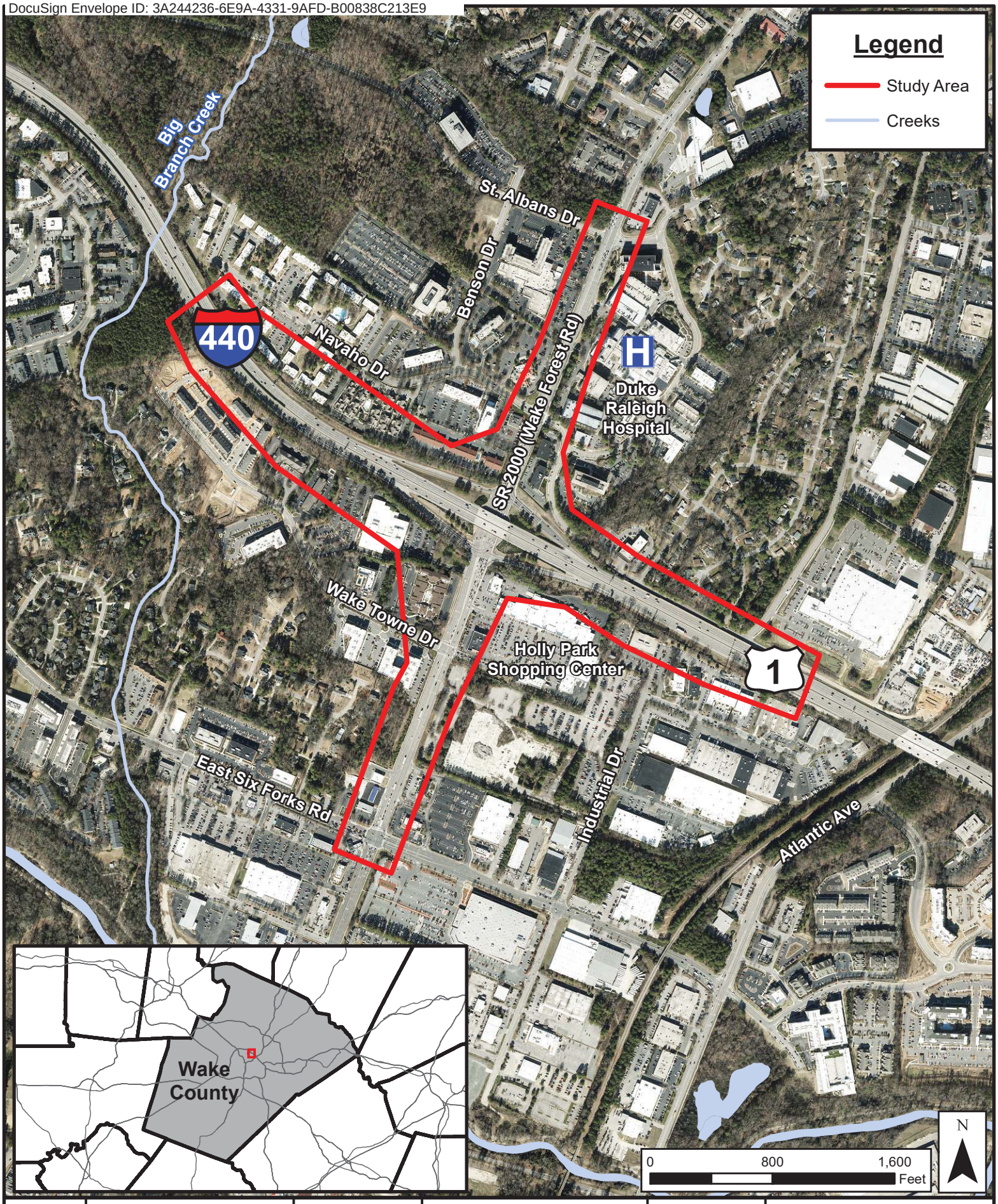
FHWA Approval:

6/26/2018
Date

DocuSigned by:
Edward Dancausse
BD03989121004F0...

John F. Sullivan, III, PE, Division Administrator
Federal Highway Administration

FIGURES



Wake County

I-440/SR 2000 (Wake Forest Rd) Interchange Conversion To DDI	TIP No: I-5708	**Figure 1:** Vicinity Map	
	Division: 5	June 2018	

Wake Forest Road North of the I-440 Bridge, Looking South

Wake Forest Road South of the I-440 Bridge, Looking North

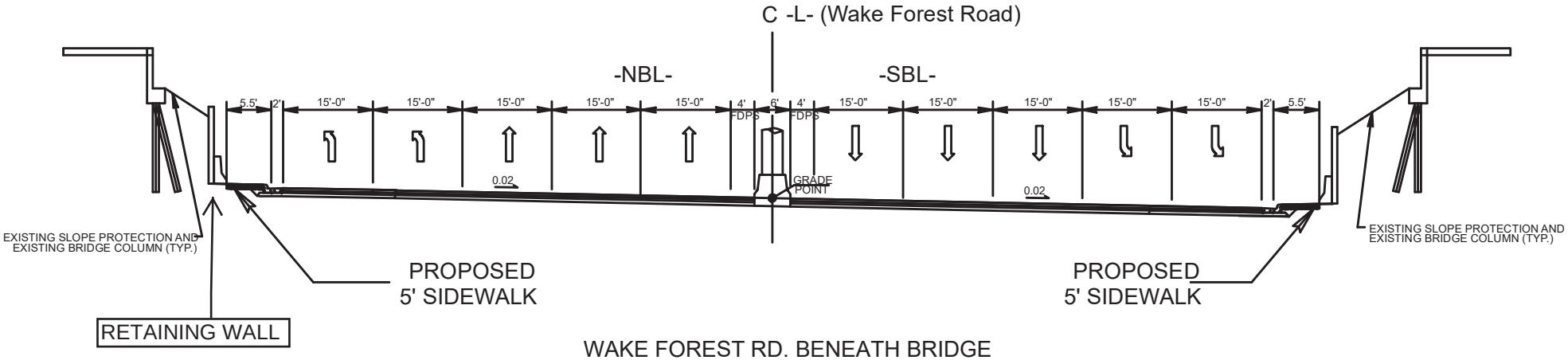
I-440 Inner Beltline Off-Ramp to Wake Forest Road

I-440 Outer Beltline On-Ramp from Wake Forest Road

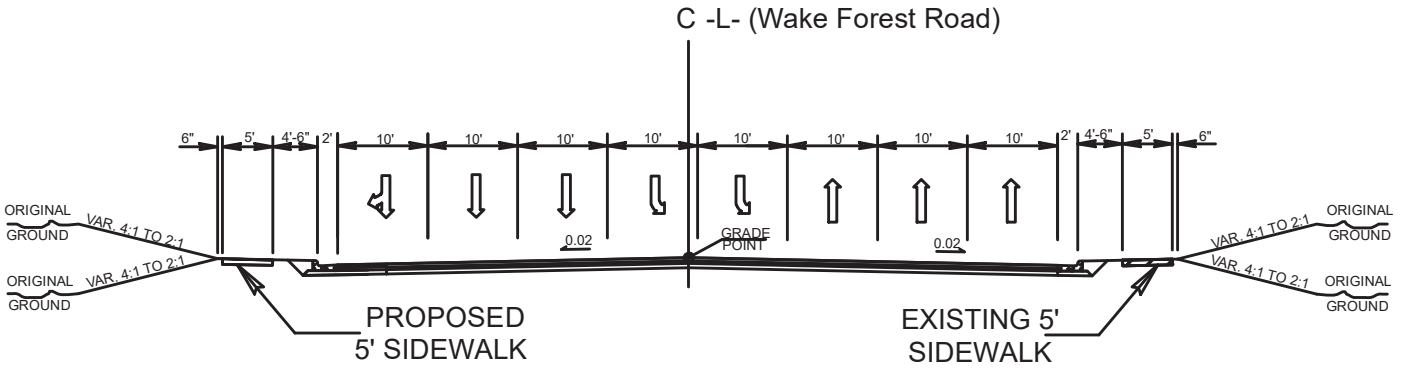
I-440 Outer Beltline Off-Ramp to Wake Forest Road

I-440 Inner Beltline On-Ramp from Wake Forest Road

	Wake County	RS&H	**I-440/SR 2000 (Wake Forest Rd Interchange Conversion to DDI**	**TIP No:** I-5708	**Figure:** 2 Project Photos
				Division: 5	June 2018

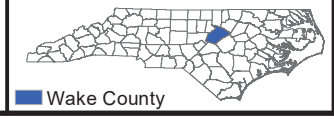


WAKE FOREST RD. BENEATH BRIDGE



WAKE FOREST RD. AT NAVAHO DR.

FDPS = Full-Depth Paved Shoulder



I-440/SR 2000 (Wake Forest Rd) Interchange Conversion To DDI

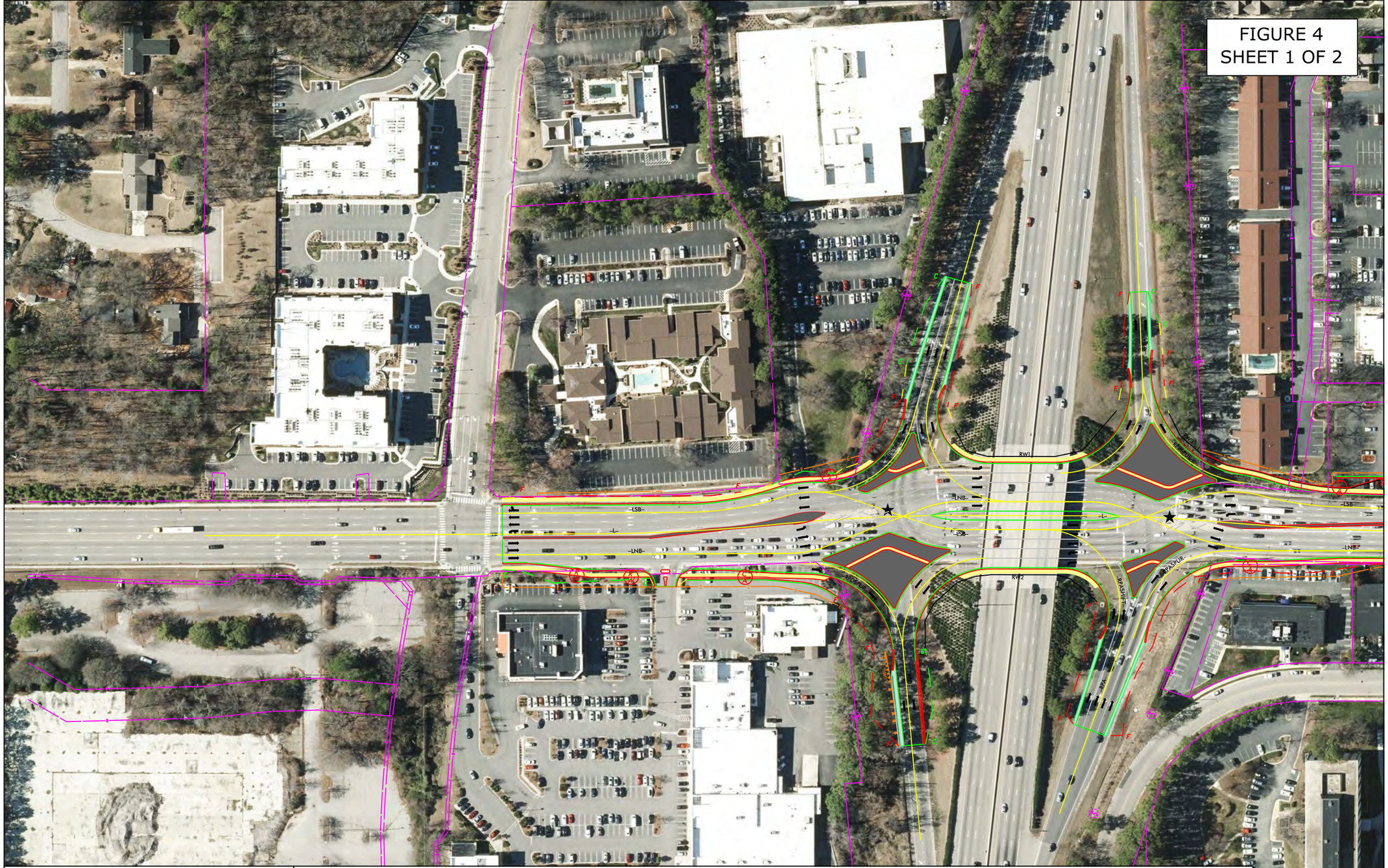
TIP No: I-5708

Figure 3: Typical Sections

Division: 5

June 2018

FIGURE 4
SHEET 1 OF 2



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

NOT TO SCALE

- PROPOSED ALIGNMENT
- PROPOSED EDGE OF TRAVEL
- PROPOSED CURB & GUTTER
- PROPOSED LANE LINE
- PROPOSED RETAINING WALL
- PROPOSED CONCRETE
- PROPOSED SIDEWALK
- PROPOSED RIGHT-OF-WAY
- PROPOSED TEMPORARY CONSTRUCTION EASEMENT
- EXISTING CONTROL OF ACCESS LINE
- EXISTING EASEMENT
- EXISTING PROPERTY LINE
- PROPOSED CUT LINE
- PROPOSED FILL LINE
- PROPOSED TRANSITION LINE
- EXISTING TRAFFIC SIGNAL
- PROPOSED TRAFFIC SIGNAL
- PROPOSED GUARDRAIL
- PROPOSED PAVED SHOULDER

FIGURE 4
SHEET 2 OF 2

PROPOSED ALIGNMENT
PROPOSED EDGE OF TRAVEL
PROPOSED CURB & GUTTER
PROPOSED LANE LINE
PROPOSED RETAINING WALL
PROPOSED CONCRETE
PROPOSED SIDEWALK
PROPOSED RIGHT-OF-WAY
PROPOSED TEMPORARY CONSTRUCTION EASEMENT

EXISTING CONTROL OF ACCESS LINE
EXISTING EASEMENT
EXISTING PROPERTY LINE
PROPOSED CUT LINE
PROPOSED FILL LINE
PROPOSED TRANSITION LINE
EXISTING TRAFFIC SIGNAL
PROPOSED TRAFFIC SIGNAL

PROPOSED GUARDRAIL
PROPOSED PAVED SHOULDER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

NOT TO SCALE

APPENDIX

North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald van der Vaart
Secretary

January 26, 2015

MEMORANDUM

To: Ahmad Al-Sharawneh, NCDOT, PDEA

From: Rob Ridings, NC Division of Water Resources, Transportation Permitting Unit

Subject: Scoping comments on proposed improvements to SR 2000 at I-440 in Wake County, Federal Aid Project No. NHP-0440(020), State Project No. 50124.FS1, TIP No. I-5708.

Reference your correspondence dated January 9, 2015 in which you requested comments for the referenced project. Preliminary analysis of the project reveals two named streams (and possible tributaries) near the project area:

Stream Name	River Basin & Subbasin	Stream Classifications	Stream Index Number	303(d) Listing?
Big Branch Creek	Neuse 02	C; NSW	27-33-17	No
Crabtree Creek	Neuse 02	C; NSW	27-33-(10)	Yes

Further investigations at a higher resolution should be undertaken to verify the presence of other streams and/or jurisdictional wetlands in the area. In the event that any jurisdictional areas are identified, the Division of Water Resources requests that NCDOT consider the following environmental issues for the proposed project:

Project Specific Comments:

1. Big Branch Creek is class C; NSW waters of the State. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The NCDWR recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Big Branch Creek. Additionally, to meet the requirements of NCDOT's NPDES permit NCS0000250, the NCDWR requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual.

2. Crabtree Creek is class C; NSW; 303(d) Impaired waters of the State. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The NCDWR recommends that the most protective sediment and erosion control BMPs be implemented in accordance with *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) to reduce the risk of further impairment to Crabtree Creek. Additionally, to meet the requirements of NCDOT's NPDES permit NCS0000250, the NCDWR requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual.

3. This project is within the Neuse River Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B.0233. New development activities located in the protected

50-foot wide riparian areas within the basin shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B.0233. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, including use of the NC Ecosystem Enhancement Program, must be provided to the NCDWR prior to approval of the Water Quality Certification. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, including use of the NC Ecosystem Enhancement Program, must be provided to the NCDWR prior to approval of the Water Quality Certification.

General Project Comments:

1. The environmental document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. If mitigation is necessary as required by 15A NCAC 2H.0506(h), it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. Appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.

2. Environmental impact statement alternatives shall consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives shall include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDWR's *Stormwater Best Management Practices Manual*, July 2007, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.

3. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the NCDOT is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506[h]), mitigation will be required for impacts of greater than 1 acre to wetlands. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as wetland mitigation.

4. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506[h]), mitigation will be required for impacts of greater than 150 linear feet to any single stream. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as stream mitigation.

5. Future documentation, including the 401 Water Quality Certification Application, shall continue to include an itemized listing of the proposed wetland and stream impacts with corresponding mapping.

6. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The NCDOT shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.

7. An analysis of cumulative and secondary impacts anticipated as a result of this project is required. The type and detail of analysis shall conform to the NC Division of Water Resource Policy on the assessment of secondary and cumulative impacts dated April 10, 2004.

8. The NCDOT is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, and rip rap to jurisdictional wetlands, streams, and riparian buffers need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.

9. Where streams must be crossed, the NCDWR prefers bridges be used in lieu of culverts. However, we realize that economic considerations often require the use of culverts. Please be advised that culverts should be countersunk to allow unimpeded passage by fish and other aquatic organisms. Moreover, in areas where high quality wetlands or streams are impacted, a bridge may prove preferable. When applicable, the NCDOT should not install the bridge bents in the creek, to the maximum extent practicable.

10. Whenever possible, the NCDWR prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) should not be placed in the stream when possible.

11. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of NCDWR's *Stormwater Best Management Practices.*

12. Sediment and erosion control measures should not be placed in wetlands or streams.

13. Borrow/waste areas should avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas will need to be presented in the 401 Water Quality Certification and could precipitate compensatory mitigation.

14. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater shall not be permitted to discharge directly into streams or surface waters.

15. If this project results in impacts to wetlands and streams, it may require a Nationwide Permit application to the Corps of Engineers and corresponding 401 Water Quality Certification. Please be advised that a 401 Water Quality Certification requires satisfactory protection of water quality to ensure that water quality standards are met and no wetland or stream uses are lost. Final permit authorization will require the submittal of a formal application by the NCDOT and written concurrence from the NCDWR. Please be aware that any approval will be contingent on appropriate avoidance and minimization of wetland and stream impacts to the maximum extent practical, the development of an acceptable stormwater management plan, and the inclusion of appropriate mitigation plans where appropriate.

16. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.

17. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.

18. Unless otherwise authorized, placement of culverts and other structures in waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required.

19. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation, floodplain benches, and/or sills may be required where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

20. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 3883/Nationwide Permit No. 6 for Survey Activities.

21. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.

22. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of the NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.

23. While the use of National Wetland Inventory (NWI) maps, NC Coastal Region Evaluation of Wetland Significance (NC-CREWS) maps and soil survey maps are useful tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.

24. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

25. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.

26. Riparian vegetation (native trees and shrubs) shall be preserved to the maximum extent possible. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

Thank you for requesting our input at this time. The NCDOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact Rob Ridings at 919-707-8786.

Van Duyn, Meredith

Subject: FW: [EXTERNAL] I-5708 Start of Study; AID SAW-2015-00347 (UNCLASSIFIED)

From: Alsmeyer, Eric C SAW [mailto:Eric.C.Alsmeyer@usace.army.mil]
Sent: Thursday, February 19, 2015 2:54 PM
To: Al-Sharawneh, Ahmad A
Cc: Weaver, Derrick G
Subject: RE: [EXTERNAL] I-5708 Start of Study; AID SAW-2015-00347 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Ahmad: In response to your request below, I have no specific comments regarding scoping. Based on the available information, it appears that the only likely water of the US subject to Section 404 within the study area limits is the tributary to Crabtree Creek that enters a culvert under Navaho Drive, just inside the study area in the northeast quadrant of the interchange.
For best viewing please read in HTML

Please reply or call if you have any questions or if I may serve you in any other way.

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at http://regulatory.usacesurvey.com/.

Thank you,

Eric Alsmeyer
Project Manager

Raleigh Regulatory Field Office
US Army Corps of Engineers, Wilmington District
3331 Heritage Trade Drive, Suite 105, Wake Forest, NC 27587
Tel: (919) 554-4884, x23
Fax: (919) 562-0421
Regulatory Homepage: http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx
(If you need information that is not yet available on our new website, please let me know)

From: Al-Sharawneh, Ahmad A [mailto:aalsharawneh@ncdot.gov]
Sent: Friday, January 09, 2015 10:38 AM
To: DCR - Environmental_Review; felix.davila@dot.gov; vanderwiele.cynthia@epa.gov; Ridings, Rob; gary_jordan@fws.gov; Wilson, Travis W.; Alsmeyer, Eric C SAW
Cc: Weaver, Derrick G; Al-Sharawneh, Ahmad A
Subject: [EXTERNAL] I-5708 Start of Study

Good morning all,
Attached the start of study packet for the subject project, please provide any comments you may have. If you have any questions, please feel free to contact me.
Thanks

Van Duyn, Meredith

Subject: FW: I-5708 Start of Study

From: Van Der Wiele, Cynthia [mailto:VanDerWiele.Cynthia@epa.gov]
Sent: Tuesday, January 27, 2015 4:40 PM
To: Al-Sharawneh, Ahmad A
Subject: RE: I-5708 Start of Study

Dear Mr. Al-Sharawneh:

The USEPA has reviewed the I-440/US 1/SR 2000 Project (NCDOT STIP Project I-5708). I used NEPAssist to examine whether or not USEPA has any hazardous waste, TRI, TSCA, Superfund, etc. types of sites in the project area.

There do not appear to be any issues of concern to the USEPA within the project study area. USEPA agrees that a Categorical Exclusion is the appropriate level of environmental documentation under the National Environmental Policy Act.

Thank you for the opportunity to comment on this project.

Best,
Cynthia

Cynthia F. Van Der Wiele, Ph.D.
USEPA Region 4 NEPA Program Office
NCDOT 404/NEPA Interagency Team
Durham, NC

From: Al-Sharawneh, Ahmad A [mailto:aalsharawneh@ncdot.gov]
Sent: Friday, January 09, 2015 10:38 AM
To: DCR - Environmental_Review; felix.davila@dot.gov; Van Der Wiele, Cynthia; Ridings, Rob; gary_jordan@fws.gov; Wilson, Travis W.; eric.c.alsmeyer@usace.army.mil
Cc: Weaver, Derrick G; Al-Sharawneh, Ahmad A
Subject: I-5708 Start of Study

Good morning all,
Attached the start of study packet for the subject project, please provide any comments you may have. If you have any questions, please feel free to contact me.
Thanks

Ahmad Al-Sharawneh
Consultant Engineer
NCDOT-PDEA-Central Region
1548 Mail Service Center
Raleigh, NC 27699-1548
Ph # 919-707-6010
Fax# 919-250-4224

Van Duyn, Meredith

Subject: FW: I-5708

From: Jordan, Gary [mailto:gary_jordan@fws.gov]
Sent: Monday, January 12, 2015 3:36 PM
To: Al-Sharawneh, Ahmad A
Subject: I-5708

Ahmad,

I have reviewed the information you submitted regarding the I-440/US 1/SR 2000 (Wake Forest Road) interchange conversion to a diverging diamond interchange in Raleigh (TIP # I-5708). Given the urban nature of the project area, impacts to fish and wildlife resources should be minimal. It appears that no habitat for federally threatened or endangered species occurs within the project study area. Therefore, the US Fish and Wildlife Service does not have any concerns regarding this project. Thanks for the opportunity to review.

Gary Jordan
Fish and Wildlife Biologist
US Fish and Wildlife Service
P.O. Box 33726
Raleigh, NC 27636-3726

Phone: 919-856-4520 x.32
Email: gary_jordan@fws.gov

REQUEST FOR R/W COST ESTIMATE / RELOCATION EIS

COST ESTIMATE REQUEST ☒ **RELOCATION EIS REPORT** ☐

NEW REQUEST: ☒ **UPDATE REQUEST:** ☐ Update to ____ Estimate **REVISION REQUEST:** ☐ Revision to ____ Estimate Revision No.: ____

DATE RECEIVED: 05/19/17 **DATE ASSIGNED**: 05/23/17 **# of Alternates Requested**: 1

DATE DUE: 08/01/17

TIP No.: I-5708	DESCRIPTION: Interchange improvements at I-440/US 1 and SR 2000 (Wake Forest Rd)

WBS ELEMENT: 50124.1.FS1 **COUNTY**: Wake **DIV**: 5 **APPRAISAL OFFICE**: 2

REQUESTOR: Ahmad Al-Sharawneh **DEPT**: PDEA

TYPE OF PLANS: HEARING MAPS ☐ | LOCATION MAP ☐ | AERIAL ☒ | VICINITY ☒ | PRELIMINARY ☐ | CONCEPTUAL ☒

** Based on past project historical data, the land and damage figures have been adjusted to include condemnation and administrative increases that occur during settlement of all parcels.**

APPRAISER: Phil Ward - Integra **COMPLETED**: 06/23/17 **# of Alternates Completed**: 1

	Diverging Diamond Interchange	
TYPE OF ACCESS:	NONE: ☐	LIMITED: ☐
	PARTIAL: ☒	FULL: ☐
ESTIMATED NO. OF PARCELS:	12	
RESIDENTIAL RELOCATEES:	-	$ -
BUSINESS RELOCATEES:	1	$ 75,000
GRAVES:	-	$ -
CHURCH / NON – PROFIT:	-	$ -
MISC:	-	$ -
SIGNS:	8	$ 135,000
LAND, IMPROVEMENTS, & DAMAGES:	$ 14,500,000	
ACQUISTION:	$ 96,000	
TOTAL ESTIMATED R/W COST:	$ 14,806,000	

** The estimated number of above relocatees includes those parcels where the proposed acquisition areas involve relocation of livable or business units only. **

NOTES: It is assumed that "The Melting Pot" lease (Parcel 3) references minimum parking requirements, which is typical for commercial tenants. Taking 19-47 parking spaces leaves this portion of the property below the required 35 spaces. We consider the loss of 55 of 639 parking spaces on the "Hilton" (Parcel 8) since it will not meet the minimum required 640 spaces. A R/W cost savings could be realized if retaining walls could save these parking spaces.

Some of the effects of the project include the closing of the driveway on Parcel 2 (SECU), loss of parking on Parcel 3 (Holly Park Shopping Center) and the loss of parking on Parcel 8 (FRO II Raleigh, LLC). Eliminating the access/driveway to SECU will leave only one access point at the rear of the property off Wake Towne Drive. With parking located on the east and west sides of the main structure, maneuverability within the site will be affected. It is estimated 25% damages to the land associated with this loss of access on Wake Forest Rd. Parking on Parcel 3 for The Melting Pot and former Enterprise (now vacant) is reduced from 47 to 28 spaces. Zoning requires a minimum of 35 parking spaces for these two tenants. Most commercial leases reference minimum parking and allow the tenant to vacate the lease if parking is affected. We will assume that The Melting Pot lease has similar terms and they will be eligible for relocation benefits. Parcel 8 (Hilton Hotel) loses approximately 55 of their 639 parking spaces. A cure for this lost parking is to build a parking deck. The footprint for the new parking deck would affect approximately 65 spaces, resulting in a parking deck totaling 120 spaces.